3.3.3.5 Sand Prairie

3.3.3.5.1 Community Overview

Sand prairie is a dry native grassland community dominated by grasses such as little bluestem, J junegrass, panic grasses, and poverty-oat grass. Common herbaceous associates are sand cress, field sage-wort, western ragweed, several sedges (e.g., *Carex muhlenbergii, Cyperus filiculmis, and Cyperus schweinitzii*), flowering spurge, frostweed, round-headed bush-clover, western sunflower, false-heather, long-bearded hawkweed, stiff goldenrod, horsebalm, and spiderwort. Drought-adapted fungi, lichens, and mosses are significant components of sand prairie communities.

At least some stands classified as sand prairie are oak or pine barrens remnants that now lack appreciable woody cover. Extensive stands may have occurred historically on broad sand terraces bordering the Mississippi, Wisconsin, Black, and Chippewa Rivers. Sand prairie may be more prevalent now in some areas than it was in historical times. Failed attempts to farm many of these prairies created blowouts, and may have even reactivated small dunes once the prairie sod was removed. We have included the 'sand barrens' community described by Curtis (1959) with this type.

3.3.3.5.2 Vertebrate Species of Greatest Conservation Need Associated with Sand Prairie

Twenty-four vertebrate Species of Greatest Conservation Need were identified as moderately or significantly associated with sand prairie (Table 3-90).

Table 3-90. Vertebrate Species of Greatest Conservation Need that are (or historically were) moderately or significantly associated with sand prairie communities.

Species Significantly Associated with Sand Prairie
Birds
Brown Thrasher
Field Sparrow
Vesper Sparrow
Lark Sparrow
Grasshopper Sparrow
Herptiles
Wood Turtle
Blanding's Turtle
Ornate Box Turtle
Western Slender Glass Lizard
Northern Prairie Skink
Prairie Racerunner
Yellow-bellied Racer
Bullsnake
Timber Rattlensnake
Eastern Massasauga Rattlesnake
Mammals
White-tailed Jackrabbit
Franklin's Ground Squirrel
Prairie Vole
Species Moderately Associated with Sand Prairie
Birds
Upland Sandpiper
Loggerhead Shrike
Bell's Vireo
Eastern Meadowlark
Western Meadowlark
Herptiles
Prairie Ringneck Snake

In order to provide a framework for decision-makers to set priorities for conservation actions, the species identified in Table 3-90 were subject to further analysis. The additional analysis identified the best opportunities, by Ecological Landscape, for protection, restoration, and/or management of both sand prairie and associated vertebrate Species of Greatest Conservation Need. The steps of this analysis were:

- Each species was examined relative to its probability of occurrence in each of the 16 Ecological Landscapes in Wisconsin. This information was then cross-referenced with the opportunity for protection, restoration, and/or management of sand prairie in each of the Ecological Landscapes (Tables 3-91 and 3-92).

- Using the analysis described above, a species was further selected if it had both a significant association with sand prairie and a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of sand prairie. These species are shown in Figure 3-16.

Table 3-91. Vertebrate Species of Greatest Conservation Need that are (or historically were) *significantly* associated with sand prairie communities and their association with Ecological Landscapes that support sand prairie.

Sand Prairie	Birds (5)*					Herptiles (10)										Mammals (3)		
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Brown Thrasher	Field Sparrow	Vesper Sparrow	Lark Sparrow	Grasshopper Sparrow	Wood Turtle	Blanding's Turtle	Ornate Box Turtle	Western Slender Glass Lizard	Northern Prairie Skink	Prairie Racerunner	Yellow-bellied Racer	Bullsnake	Timber Rattlesnake	Eastern Massasauga Rattlesnake	White-tailed Jackrabbit	Franklin's Ground Squirrel	Prairie Vole
MAJOR																		
Central Sand Plains	■	■	■	▭	■	■	■		■			▭	▭		▭	▭	■	▭
Western Coulee and Ridges	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		▭	▭
IMPORTANT																		
Central Sand Hills	■	■	■	▭	■		■	■	■			▭	▭				■	▭
Western Prairie	■	■	■		■	■	■			■	■	▭		■		▭	▭	▭
PRESENT (MINOR)																		
Southeast Glacial Plains	■	■	■	▭	■		■	■				▭			■		■	▭
Southwest Savanna	■	■	■		■		■	■				■	▭	▭			▭	▭

Color Key

■ = **HIGH probability the species occurs in this Ecological Landscape**

▭ = **MODERATE probability the species occurs in this Ecological Landscape**

□ = **LOW or NO probability the species occurs in this Ecological Landscape**

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Table 3-92. Vertebrate Species of Greatest Conservation Need that are (or historically were) *moderately* associated with sand prairie communities and their association with Ecological Landscapes that support sand prairie.

Sand Prairie	Birds (5)*					Herptiles (1)
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Upland Sandpiper	Loggerhead Shrike	Bell's Vireo	Eastern Meadowlark	Western Meadowlark	Prairie Ringneck Snake
MAJOR						
Central Sand Plains						
Western Coulee and Ridges						
IMPORTANT						
Central Sand Hills						
Western Prairie						
PRESENT (MINOR)						
Southeast Glacial Plains						
Southwest Savanna						

Color Key

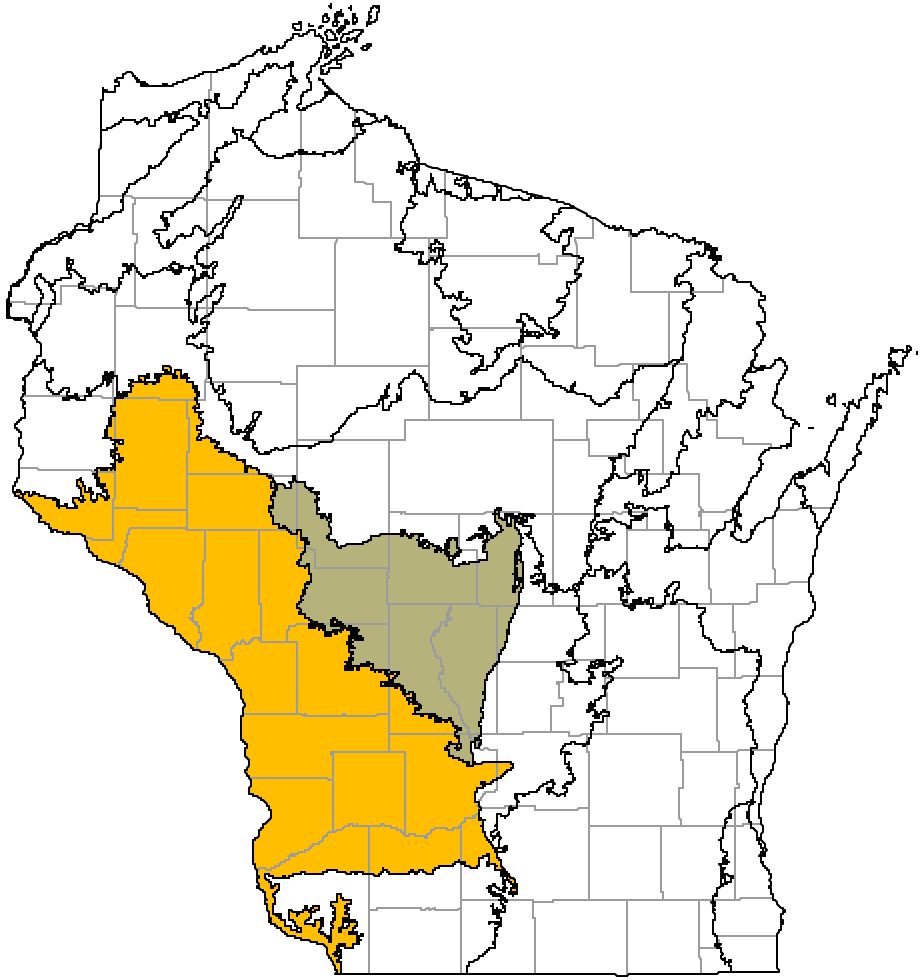
= HIGH probability the species occurs in this Ecological Landscape

= MODERATE probability the species occurs in this Ecological Landscape

= LOW or NO probability the species occurs in this Ecological Landscape

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Figure 3-16. Vertebrate Species of Greatest Conservation Need that have *both* a significant association with sand prairie *and* a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of sand prairie.



Central Sand Plains
- Brown Thrasher
- Field Sparrow
- Vesper Sparrow
- Grasshopper Sparrow
- Wood Turtle
- Blanding's Turtle
- Western Slender Glass Lizard
- Franklin's Ground Squirrel

Western Coulees and Ridges
- Brown Thrasher
- Field Sparrow
- Vesper Sparrow
- Lark Sparrow
- Grasshopper Sparrow
- Wood Turtle
- Blanding's Turtle
- Ornate Box Turtle
- Western Slender Glass Lizard
- Northern Prairie Skink
- Prairie Racerunner
- Yellow-bellied Racer
- Bullsnake
- Timber Rattlesnake
- Eastern Massasauga Rattlesnake

3.3.3.5.3 Threats and Priority Conservation Actions for Sand Prairie

3.3.3.5.3.1 Statewide Overview of Threats and Priority Conservation Actions for Sand Prairie

The following list of threats and priority conservation actions were identified for sand prairie in Wisconsin. The threats and priority conservation actions described below apply to all of the Ecological Landscapes in Section 3.3.3.5.3.2 unless otherwise indicated.

Threats and Issues

- This community type is fragile and can be easily damaged.
- Off-road vehicle use can damage sensitive vegetation and aid the spread of invasive plants.
- At sites that were either part of or adjacent to barrens complexes, the removal of all tree cover is not necessarily desirable, as that can cause excessive desiccation, the loss of organic matter, and remove habitat niches needed by certain animals.
- Lack of fire and the encroachment of woody plants can be a problem, but fire frequency and severity should be planned carefully especially at excessively dry sites.
- Small, isolated sites are vulnerable to species loss, which can be permanent unless extreme measures such as reintroduction are taken.
- Invasive plants such as leafy spurge, cypress spurge, and spotted knapweed are major threats.
- Conversion to pine plantations has been common in some areas, and in addition to replacing an already rare native community type, the conversion can damage or destroy prairie vegetation, isolate the remnant prairie patches, and contribute to fragmentation of the formerly contiguous grassy openings.

Priority Conservation Actions

- Conservation activities should be incorporated into the management of other grasslands, surrogate prairie grasslands, barrens, and other open habitats where possible.
- Restoration is now occurring on some public lands, mostly in central and southwestern Wisconsin.
- Synthesize existing information that has been collected for this type in Wisconsin and other parts of the upper Midwest, and make it accessible to managers.
- Use prescribed burning as a tool to manage these sites, following guidelines developed specifically for sand prairies and the fire-sensitive species that are dependent on or strongly associated with this community.
- Protect sensitive areas from off-road vehicles.
- Continue to support research to find effective biocontrols for invasive plants; control the spread of new invasives by limiting activities that facilitate their spread where possible.

3.3.3.5.3.2 Additional Considerations for Sand Prairie by Ecological Landscape

Special considerations have been identified for those Ecological Landscapes where major or important opportunities for protection, restoration, and/or management of sand prairie exist. Those considerations are described below and are in addition to the statewide threats and priority conservation actions for sand prairie found in Section 3.3.3.5.3.1.

Additional Considerations for Sand Prairie in Ecological Landscapes with ***Major*** Opportunities for Protection, Restoration, and/or Management

Central Sand Plains

Limited restoration is occurring on public lands such as Dike 17 State Wildlife Area within the Black River State Forest (Jackson County), Sandhill State Wildlife Area (Wood County), and Mirror Lake State Park (Sauk County). At these sites, the restoration of sand prairie is occurring in conjunction with efforts to restore oak and pine barrens communities.

Western Coulees and Ridges

Opportunities to manage or restore this type exist on the broad sand terraces of the Mississippi, Wisconsin, Chippewa, and Black Rivers. Conversion to pine plantations has occurred at many locations. Farming was attempted at some locations and generally failed. Residential development is rapidly encroaching on sand prairie habitat near urban population centers. Restoration is occurring at the following sites: Lower Chippewa River State Natural Area (Buffalo, Dunn, and Pepin Counties), Dunnville Wildlife Area (Dunn County), Trempealeau National Wildlife Refuge (Trempealeau County), Fort McCoy Military reservation (Monroe County), Blue River Sand Barrens and Dunes State Natural Area (Iowa County), Schluckebier Sand Prairie (Sauk County), Lone Rock Sand Prairie, and Spring Green Preserve.

Additional Considerations for Sand Prairie in Ecological Landscapes with ***Important*** Opportunities for Protection, Restoration, and/or Management

Central Sand Hills

The few sites documented are small and isolated. Grazing has been, and is, a problem, as is the planting of conifers. Additional survey work is desirable in this Ecological Landscape to identify high quality sand prairie remnants.

Western Prairie

Opportunities are limited and appear to be confined to terraces or steep bluffs associated with the St. Croix River and its major tributaries. Additional survey work is needed to document the sites with the highest conservation value.